

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 9-12, and 20-22 and CANCEL claims 2-3 in accordance with the following:

1. (CURRENTLY AMENDED) An apparatus for supporting a configuration of a storage system including an upper level device with at least one port, an input/output device with at least one port and a path control device provided between the upper level device and the input/output device, comprising:

a first information acquisition unit which acquires information about the upper level device, the input/output device and the path control device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output device and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a path information generation unit which generates path information about a logical path to be established between the upper level device and the input/output device through the path control device based on the information acquired by said first and the second information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares instruction to control conditions of the upper level device, the input/output device and the path control device based on the path information ~~generated-modified~~ by said ~~path information generation unit~~replacement unit; and

a transmission unit which transmits the instruction prepared by said instruction preparation unit to the upper level device, the input/output device and the path control device.

2. (CANCELLED)

3. (CANCELLED)
4. (ORIGINAL) The apparatus according to claim 1, wherein
said path information generation unit detects a logical path that can be established
between the upper level device and the input/output device based on the information acquired
by said first and the second information acquisition units and generates path information; and
said instruction preparation unit prepares an instruction to establish the detected logical
path.
5. (ORIGINAL) The apparatus according to claim 4, wherein
said instruction preparation unit prepares an instruction to establish all the detected
logical paths.
6. (ORIGINAL) The apparatus according to claim 1, further comprising
a third information acquisition unit which acquires information that is related to a virtual
data area to be prepared in the upper level device, wherein
said instruction preparation unit prepares an instruction to secure a data area
corresponding to the virtual data area in the input/output device.
7. (ORIGINAL) The apparatus according to claim 6, wherein
said instruction preparation unit prepares instructions to establish a logical path between an
upper level device where the virtual data area should be prepared and an input/output device
where the corresponding data area should be secured.
8. (ORIGINAL) The apparatus according to claim 1, wherein
said first and second information acquisition units provide interfaces allowing a user to
input information.
9. (CURRENTLY AMENDED) An apparatus for supporting a configuration of a
storage system including an upper level device with a plurality of ports, an input/output device
with a plurality of ports and a path control device provided between the upper level device and
the input/output device, comprising:
a first information acquisition unit which acquires information about the upper level

device, the input/output device and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output device and the path control device;

a path information generation unit which generates path information about a plurality of logical paths to be established between the upper level device and the input/output device through the path control device based on the information acquired by said first and the second information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares instruction to control conditions of the upper level device, the input/output device and the path control device based on the path information ~~generated~~ modified by said ~~path information generation unit~~ replacement unit; and

a transmission unit which transmits the instruction prepared by said instruction preparation unit to the upper level device, the input/output device and the path control device.

10. (CURRENTLY AMENDED) An apparatus for supporting a configuration of a storage system including an upper level device with at least one port, a plurality of input/output devices each of which is provided with at least one port and a path control device provided between the upper level device and the plurality of input/output devices, comprising:

a first information acquisition unit which acquires information about the upper level device, the input/output devices and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output devices and the path control device;

a third information acquisition unit which acquires information about a virtual data region to be prepared in the upper device and information designating one of input/output devices in which a data area corresponding to the virtual data area should be secured;

a path information generation unit which generates path information about a logical path to be established between the upper level device and the designated input/output device

through the path control device based on the information acquired by said first, second and third information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares an instruction to control conditions of the upper level device, the input/output devices and the path control device based on the path information ~~generated~~ modified by said ~~path information generation unit~~ replacement unit; and

a transmission unit which transmits an instruction prepared by said instruction preparation unit to the upper level device, the input/output devices and the path control device.

11. (CURRENTLY AMENDED) A method for supporting a configuration of a storage system including an upper level device with at least one port, an input/output device with at least one port and a path control device provided between the upper level device and the input/output device, comprising:

acquiring information about the upper level device, the input/output device and the path control device;

allocating temporary port information to respective ports provided in the upper level device and the input/output device

acquiring information about a physical connection among the upper level device, the input/output device and the path control device;

generating path information about a logical path to be established between the upper level device and the input/output device through the path control device based on the acquired information using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

preparing an instruction to control conditions of the upper level device, the input/output device and the path control device based on the path information; and

transmitting the instruction to the upper level device, the input/output device and the path control device.

12. (CURRENTLY AMENDED) A computer readable medium storing a program for supporting a configuration of a storage system including an upper level device with at least one port, an input/output device with at least one port and a path control device provided between the upper level device and the input/output device, said program enables a computer to provide:

a first information acquisition unit which acquires information about the upper level device, the input/output device and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output device and the path control device;

a path information generation unit which generates path information about a logical path to be established between the upper level device and the input/output device through the path control device based on the information acquired by said first and the second information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares instruction to control conditions of the upper level device, the input/output device and the path control device based on the path information ~~generated~~ modified by said ~~path information generation unit~~ replacement unit; and

a transmission unit which transmits the instruction prepared by said instruction preparation unit to the upper level device, the input/output device and the path control device.

13. (ORIGINAL) The computer readable medium according to claim 12, said program further enables the computer to provide:

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device, wherein

said path information generation unit generates the path information using the temporary port information.

14. (ORIGINAL) The computer readable medium according to claim 13, said program further enables the computer to provide:

an inquiry unit which inquires port information of respective ports provided in an upper

level device and an input/output device provided in an actually configured storage system, wherein

said path information generation unit replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry.

15. (ORIGINAL) The computer readable medium according to claim 12, wherein:
said path information generation unit detects a logical path that can be established between the upper level device and the input/output device based on the information acquired by said first and the second information acquisition units and generates path information; and
said instruction preparation unit prepares an instruction to establish the detected logical path.

16. (ORIGINAL) The computer readable medium according to claim 15, wherein
said instruction preparation unit prepares an instruction to establish all the detected logical paths.

17. (ORIGINAL) The computer readable medium according to claim 12, said program further enables the computer to provide:
a third information acquisition unit which acquires information that is related to a virtual data area to be prepared in the upper level device, wherein
said instruction preparation unit prepares an instruction to secure a data area corresponding to the virtual data area in the input/output device.

18. (ORIGINAL) The computer readable medium according to claim 17, wherein
said instruction preparation unit prepares instructions to establish a logical path between an upper level device where the virtual data area should be prepared and an input/output device where the corresponding data area should be secured.

19. (ORIGINAL) The computer readable medium according to claim 5, wherein
said first and second information acquisition units provide interfaces allowing a user to input information.

20. (CURRENTLY AMENDED) A computer readable medium storing a program for supporting a configuration of a storage system including an upper level device with a plurality of ports, an input/output device with a plurality of ports and a path control device provided between

the upper level device and the input/output device, said program enables a computer to provide:

a first information acquisition unit which acquires information about the upper level device, the input/output device and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output device and the path control device;

a path information generation unit which generates path information about a plurality of logical paths to be established between the upper level device and the input/output device through the path control device based on the information acquired by said first and the second information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares instruction to control conditions of the upper level device, the input/output device and the path control device based on the path information ~~generated~~ modified by said ~~path information generation~~ replacement unit; and

a transmission unit which transmits the instruction prepared by said instruction preparation unit to the upper level device, the input/output device and the path control device.

21. (CURRENTLY AMENDED) A computer readable medium storing a program for supporting a configuration of a storage system including an upper level device with at least one port, a plurality of input/output devices each of which is provided with at least one port and a path control device provided between the upper level device and the plurality of input/output devices, said program enables a computer to provide:

a first information acquisition unit which acquires information about the upper level device, the input/output devices and the path control device;

an allocation unit which allocates temporary port information to respective ports provided in the upper level device and the input/output device;

a second information acquisition unit which acquires information about a physical connection among the upper level device, the input/output devices and the path control device;

a third information acquisition unit which acquires information about a virtual data region to be prepared in the upper device and information designating one of input/output devices in

which a data area corresponding to the virtual data area should be secured;

a path information generation unit which generates path information about a logical path to be established between the upper level device and the designated input/output device through the path control device based on the information acquired by said first, second and third information acquisition units using the temporary port information;

an inquiry unit which inquires port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

a replacement unit which replaces the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

an instruction preparation unit which prepares an instruction to control conditions of the upper level device, the input/output devices and the path control device based on the path information ~~generated-~~ modified by said ~~path information generation~~ replacement unit; and

a transmission unit which transmits an instruction prepared by said instruction preparation unit to the upper level device, the input/output devices and the path control device.

22. (CURRENTLY AMENDED) An apparatus for supporting a configuration of a storage system including an upper level device with at least one port, an input/output device with at least one port and a path control device provided between the upper level device and the input/output device, comprising:

first information acquisition means for acquiring information about the upper level device, the input/output device and the path control device;

means for allocating temporary port information to respective ports provided in the upper level device and the input/output device;

second information acquisition means for acquiring information about a physical connection among the upper level device, the input/output device and the path control device;

path information generation means for generating path information about a logical path to be established between the upper level device and the input/output device through the path control device based on the information acquired by said first and the second information acquisition means using the temporary port information;

means for inquiring port information of respective ports provided in an upper level device and an input/output device provided in an actually configured storage system;

means for replacing the temporary port information being used in the previously prepared path information with actual port information obtained by the inquiry;

instruction preparation means for preparing instruction to control conditions of the upper

level device, the input/output device and the path control device based on the path information
~~generated~~ modified by said ~~path information generation means~~ means for replacing; and

transmission means for transmitting the instruction prepared by said instruction
preparation means to the upper level device, the input/output device and the path control device.